

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

RIVERBED TECHNOLOGY, INC.,

Plaintiff,

v.

SILVER PEAK SYSTEMS, INC.,

Defendant.

Civil Action No. 11-484-RGA-CJB

MEMORANDUM OPINION

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ANDREWS, U.S. DISTRICT JUDGE:

## **I. BACKGROUND**

Riverbed Technology, Inc. (“Riverbed”) filed suit against Silver Peak Systems, Inc. (“Silver Peak”) on June 1, 2011, alleging infringement of four U.S. patents (D.I. 1), and Riverbed subsequently amended its complaint on December 19, 2011 to assert infringement of a fifth patent. (D.I. 38). In November 2012, Riverbed dismissed two of the patents (D.I. 114) and in September 2013 the Court stayed two of Riverbed’s other patents pending a potential appeal of an *inter partes* re-examination that rejected all of the relevant independent claims. (D.I. 170). Riverbed has not requested that the Court continue its case regarding the fifth patent, so all of Riverbed’s claims are currently stayed. (*Id.*).

On August 17, 2011, Silver Peak counterclaimed and asserted that Riverbed infringed three patents: U.S. Patent Nos. 7,945,736 (the “’736 patent”), 7,948,921 (the “’921 patent”), and 7,630,295 (collectively, the “Silver Peak patents”). (D.I. 13). The Court construed the disputed terms in the Silver Peak patents on July 23, 2013. (D.I. 158). Silver Peak and Riverbed served their expert reports addressing Riverbed’s alleged infringement of the Silver Peak patents on February 23, 2013 and April 1, 2013, respectively.

A series of summary judgment motions followed the exchange of expert reports. The parties filed cross-motions for summary judgment of infringement and non-infringement of the ’736 patent. (D.I. 171 & 188). The support and opposition papers were combined, and the briefing is complete. (D.I. 172, 189, 207 & 213). Silver Peak filed a separate motion seeking summary judgment of infringement of the ’921 patent on October 11, 2013. (D.I. 184). The briefing is complete. (D.I. 185, 209 & 216). On December 12, 2013, the Court heard oral argument on the summary judgment motions. (D.I. 225). For the reasons that follow, the Court

will grant partial summary judgment for Silver Peak on its motion for summary judgment of infringement of the '921 patent, and the Court will deny Silver Peak and Riverbed's cross-motions for summary judgment of infringement and non-infringement of the '736 patent.

## II. LEGAL STANDARD

"The court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." FED. R. CIV. P. 56(a). A grant of partial summary judgment is also available if the circumstances warrant such relief. *See* FED. R. CIV. P. 56(g) ("If the court does not grant all the relief requested by the motion, it may enter an order stating any material fact—including an item of damages or other relief—that is not genuinely in dispute and treating the fact as established in the case."). A "material fact" is one that "could affect the outcome" of the proceeding. *See Lamont v. New Jersey*, 637 F.3d 177, 181 (3d Cir. 2011). The moving party bears the burden of demonstrating the absence of a genuine issue of material fact. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586 n.10 (1986). The court will "draw all reasonable inferences in favor of the nonmoving party, and it may not make credibility determinations or weigh the evidence." *Reeves v. Sanderson Plumbing Prods., Inc.*, 530 U.S. 133, 150 (2000).

If the moving party is able to demonstrate an absence of disputed material facts, the nonmoving party then "must come forward with 'specific facts showing that there is a genuine issue for trial.'" *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 249 (1986); *see also Matsushita*, 475 U.S. at 587. The mere existence of some evidence in support of the nonmoving party, however, will not be sufficient for denial of a motion for summary judgment. *Anderson*, 477 U.S. at 249. Rather, the nonmoving party must present enough evidence to enable a jury to reasonably find for it on that issue. *Id.* If the nonmoving party fails to make a sufficient

showing on an essential element of its case with respect to which it has the burden of proof, the moving party is entitled to judgment as a matter of law. *See Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986).

### III. DISCUSSION

#### A. The '921 Patent

Silver Peak contends that Riverbed's RiOS software versions 5.0.0 and higher practice every limitation of claim 1 of the '921 patent. In support of its position, Silver Peak relies primarily on an expert report and a declaration from its expert, Dr. Spring. Dr. Spring analyzes each of the ten claim elements and identifies the portions of code in the RiOS software that practice each of the limitations. Silver Peak also claims that parts of the deposition testimony of Riverbed's expert, Dr. Kubiawicz, confirm that Riverbed's RiOS software infringes claim 1.

Riverbed raises three main arguments in response. First, Riverbed contends that Silver Peak failed to carry its burden because "Dr. Spring fails to identify any specific, released Riverbed product that he alleges actually performs the method claimed in claim 1." (D.I. 209 at 6). Second, Riverbed asserts that Dr. Spring's analysis is incomplete and falls short of establishing infringement. Finally, Riverbed claims that Silver Peak mischaracterizes the testimony of Riverbed's expert regarding the sixth and tenth limitations of claim 1. These arguments will be addressed in order.

##### 1. *Silver Peak Does Not Specifically Identify the Infringing Products*

Riverbed asserts that Silver Peak failed to carry its burden of proof to show that a Riverbed product meets every limitation of claim 1 of the '921 patent because Dr. Spring did not "tie his analysis to any specific Riverbed product." (*Id.*). Dr. Spring "generically identified Riverbed's Steelhead appliances and Virtual Steelheads running RiOS software version 5.0.0 or

higher as allegedly infringing the '921 Patent,” but never identified any such device by name, number, or SKU. (*Id.* at 6-7). Without identifying the product itself, “Silver Peak has proffered no evidence to show that any Riverbed device runs the RiOS software accused of infringement,” and accordingly has not met its burden of proof. (*Id.* at 7).

Silver Peak did identify the infringing products, but only implicitly based on the software used by each product. (D.I. 216 at 2) (“Dr. Spring expressly identified the infringing products as Riverbed’s Steelhead appliances and Virtual Steelhead appliances running RiOS version 5.0.0 or higher.”). Silver Peak also notes that a list of Steelhead model numbers that correspond with the infringing versions of the RiOS software is available on Riverbed’s website, and Silver Peak invites the Court to “either use the model numbers listed on Riverbed’s website or enter partial summary judgment that Steelhead hardware used with RiOS version 5.0.0 or higher infringes and leave for trial which SKU numbers were sold or used with infringing versions of RiOS.” (*Id.* at 3-4).

The Court believes the latter approach is the more prudent one. As will be discussed in more detail below, Silver Peak has met its burden of proving that RiOS versions 5.0.0 and higher infringe claim 1 of the '921 patent, and partial summary judgment will be entered on that basis. *See* FED. R. CIV. P. 56(g). The determination of which Steelhead models were sold or used with infringing versions of RiOS software is reserved for trial.

*2. Dr. Spring’s Analysis Is Sufficient to Establish that Riverbed’s RiOS Software Versions 5.0.0 and Higher Practice Every Limitation of Claim 1 of the '921 Patent*

Claim 1 of the '921 patent recites a method for automatic network optimization that is broken down into ten elements:

1. A method comprising:

receiving a first data packet including an unenhanced payload from a first network device;

modifying a portion of the first data packet, the portion being outside the unenhanced payload of the first data packet, to indicate that a first optimization device is capable of enhanced communication;

sending the modified first data packet from the first optimization device to an endpoint device;

receiving an indication of a capability of enhanced payload processing;

generating an enhanced payload of a second data packet addressed to the endpoint device based on the indication;

sending the second data packet including the enhanced payload to the endpoint device;

sending a third data packet from the first optimization device to an endpoint device, the third data packet having a modified portion outside of a payload;

receiving an acknowledgement of the third data packet that does not indicate a capability of enhanced payload processing;

receiving a fourth data packet with an unenhanced payload; and

sending the fourth data packet to the endpoint device.

'921 patent, claim 1. Dr. Spring's forty-eight page declaration analyzes each of the ten claim limitations individually, providing the specific functionality in the RiOS software that practices the limitation. His analysis of the third limitation—sending the modified first data packet from the first optimization device to an endpoint device—is exemplary:

62. The Accused Riverbed Products send the modified first data packet from the first optimization device[] to an endpoint device. As explained below, once the client-side Steelhead appliance has modified the data packet to include an auto-optimization Probe option in its TCP header, it sends the modified data packet to the destination computer.

63. Function `intercept_pktin(...)` passes the `icore_t` structure representing the current state of the Intercept core, the `pkt_t` structure representing the incoming packet, and the `er_ret_t` type representing the return code from `pktin(...)` to function `intercept_pktin_bh(...)`, which passes all of its parameters to function `intercept_wccp_return(...)`. See App. Exs. 81-82.

64. After handling some special cases involving the WCCP routing protocol, function `intercept_wccp_return(...)` calls function `ip_route_common(...)`, which looks up the destination address in the system's routing table and sets the packet's destination address to the address of the next hop towards the destination system. See App. Ex. 83. Once the packet's next hop destination address has been set, functions `intercept_wccp_return(...)` and `intercept_pktin_bh(...)` return to `intercept_pktin(...)`, which returns the `er_ret_t` return code to its calling function, `er_input(...)`.

65. Since the `er_ret_t` return code is `ER_ACTION_INTERCEPT`, function `er_input(...)` jumps ahead to the code beginning at label `relay`. See App. Ex. 84. Function `er_input(...)` then handles special delivery cases for when the appliance only has one interface configured. If the device has more than one interface configured and if the packet's destination address is not set to the address of any of the appliance's relays, function `er_input(...)` passes the packet as a parameter to function `er_relay_xmit(...)`. See App. Ex. 87. Function `er_relay_xmit(...)` adds an Ethernet header back onto the packet if it was previously removed by the driver and then passes the packet to the `er_if_xmit(...)` function along with the ID of the interface on which the packet should be transmitted. See App. Ex. 88. Function `er_if_xmit(...)` updates several statistics and then passes the modified incoming packet to Linux system function `dev_queue_xmit(...)`, which queues a buffer for transmission to a network device. See App. Ex. 89.

(D.I. 187, ¶¶ 62-65). Dr. Spring buttresses his opinion with excerpted portions of Dr.

Kubiatowicz's deposition testimony for nine of the ten limitations, although Riverbed disputes the extent to which Dr. Kubiatowicz agrees with Dr. Spring's positions.

Riverbed points to three related issues in an attempt to combat Dr. Spring's opinion.

First, Riverbed claims that Dr. Spring only analyzed a single version of the source code, version 5.0.0, and "merely assumes that all other versions will infringe." (D.I. 209 at 7). Riverbed relies on Federal Circuit precedent stating that the patentee "cannot simply 'assume' that all of [the accused] products are like the one [the patentee's expert] tested and thereby shift to [the accused infringer] the burden to show that is not the case." *L & W, Inc. v. Shertech, Inc.*, 471 F.3d 1311,

1318 (Fed. Cir. 2006). This case is inapposite because the facts here are distinguishable. It is true that in Dr. Spring's declaration he conducted the term by term analysis for all ten claim limitations only for RiOS version 5.0.0. However, Dr. Spring also reviewed subsequent versions of the code to confirm that the functionality had not changed in a way that would cause him to have a different view of infringement for those newer versions. He explicitly addresses this point in his declaration:

155. Although the above analysis describes the operation of the accused functionality in RiOS version 5.0.0, I have also examined the implementation of EAD and full transparency<sup>1</sup> in subsequent versions of the RiOS source code provided by Riverbed. *I located the infringing functionality in version 5.0.0 of RiOS and then confirmed that the infringing functionality was neither removed nor materially modified in the subsequent versions of the RiOS software. I examined all subsequent versions produced by Riverbed to Silver Peak (versions 5.5.0; 6.0.1; 6.0.2; 6.1.1; 6.1.2\_34; 6.5.3; and 8.0.0) and reviewed the release notes and other documentation as they describe intermediate revisions.*

156. Although these subsequent versions of the RiOS source code differ from version 5.0.0 in various ways, including moving steps of the algorithm into different functions or modules from the ones named in the above discussion, the subsequent versions implement EAD by performing fundamentally the same steps as version 5.0.0. That is, *none of the subsequent versions contained material changes to the infringing functionality.* Therefore, my conclusion that the EAD functionality infringes every element of claim 1 of the '921 patent applies to these versions as well.

(D.I. 187, ¶¶ 155-56 (emphasis added) (footnote added)). Far from simply assuming that all subsequent versions of RiOS infringe based on his analysis of version 5.0.0, Dr. Spring clearly denotes the steps he took to confirm that the later versions of RiOS contain the same accused functionality and, in his opinion, also infringe claim 1 of the '921 patent. The Court believes this

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<sup>1</sup> In order for RiOS software to infringe claim 1 of the '921 patent, the enhanced auto-discovery ("EAD") and full transparency functionalities must be turned on. (D.I. 187, ¶ 43). Full transparency was introduced in RiOS version 5.0.0. (*Id.* ¶ 38).



is sufficient support for Dr. Spring's conclusion that RiOS versions 5.0.0, 5.5.0, 6.0.1, 6.0.2, 6.1.1, 6.1.2\_34, 6.5.3, and 8.0.0 infringe claim 1.

Second, Riverbed faults Dr. Spring for failing to provide any evidence that Riverbed has ever operated an accused device in a way that infringes—*i.e.*, with EAD and full transparency turned on. Riverbed, however, does not create a disputed material fact by offering evidence that it has never operated its software in this manner. In order for there to be direct infringement of a method claim, “a person must have practiced all steps of the claimed method.” *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1317 (Fed. Cir. 2009); *see also Joy Techs., Inc. v. Flakt, Inc.*, 6 F.3d 770, 775 (Fed. Cir. 1993) (“A method claim is *directly* infringed only by one practicing the patented method.” (emphasis in original)). Direct evidence of infringement is preferable, but circumstantial evidence can also be “adequate to permit a jury to find that at least one other person within the United States during the relevant time period, other than the expert [retained for litigation], had performed the claimed method.” *Lucent Techs., Inc.*, 580 F.3d at 1318 (upholding jury verdict of direct infringement based on circumstantial evidence that defendant “not only designed the accused products to practice the claimed invention, but also instructed its customers to use the accused products in an infringing way”).

Silver Peak cites internal Riverbed documents to prove that Riverbed tested its devices with EAD and full transparency mode enabled. (D.I. 217-1 at 49 (“Created a setup with in-path steelheads. Added an Auto Discovery in-path rule at the start position with sdr disabled (optimization policy set to None) but allowing latency optimization (Latency optimization set to Normal) and with WAN Visibility set to Full Transparency. This is done so that we can observe smb packets both on lan and wan sides of steelheads.”)). In addition, Riverbed provides customers with instructions for enabling full transparency mode in its Steelhead Management

Console User's Guide. (*Id.* at 53 (“To turn full transparency on globally by default, create an in-path auto-discover rule, select Full, and place it above the default in-path rule and after the Secure, Interactive, and RBT-Proto rules.”)). This document also states that more details are available in the Riverbed Deployment Guide. (*Id.*). Riverbed's instructions to customers on how to operate its products in a way that infringes is circumstantial evidence that Riverbed previously used its products in the infringing manner. Were that not the case, providing instructions on the infringing operation would have been difficult. Based on the direct and circumstantial evidence that Riverbed operated its products in an infringing manner, the Court is satisfied that Silver Peak has carried its burden of proof.

Finally, Riverbed argues that Dr. Spring's testimony is flawed because he analyzed RiOS version 5.0.0 for eight of the claim terms, but analyzed RiOS version 6.0.1 for claim terms five and six. Riverbed contends that this “mix[ing] and match[ing of] source code versions without providing any actual support” is unjustified. (D.I. 209 at 11-12). As described above, Dr. Spring confirmed that every RiOS version 5.0.0 and higher that he reviewed operated in the same infringing manner. (D.I. 187, ¶¶ 155-56). It makes no difference to Dr. Spring's ultimate conclusion of infringement which RiOS version of the source code he cites for the particular claim element because he previously determined that each version operated in the same infringing manner.

### 3. *Silver Peak Does Not Mischaracterize Dr. Kubiadowicz's Testimony*

Riverbed's final argument is that Silver Peak improperly supported its insufficient proof of infringement by mischaracterizing Dr. Kubiadowicz's testimony regarding the sixth and tenth claim elements. Silver Peak's brief cites portions of Dr. Kubiadowicz's deposition to support its argument that “no dispute exists” as to whether the sixth limitation of claim 1 is met. (D.I. 185

at 15-16). According to Riverbed, this quotation of Dr. Kubiadowicz's testimony was misleading because he was actually discussing a different version of RiOS source code than the one analyzed by Dr. Spring, and Dr. Kubiadowicz's statements were in the context of his own invalidity opinion. (D.I. 209 at 13). Riverbed also asserts that Dr. Kubiadowicz's acknowledgement that "full transparency" was present "in the release notes" is different from admitting that the limitation was met. (*Id.* at 14).

With respect to the tenth limitation, Riverbed contends that Silver Peak is hiding behind "the lack of disclosure in Dr. Spring's report" and faulting Riverbed for not rebutting it. (*Id.* at 16). According to Riverbed, "Silver Peak argues that, because Dr. Kubiadowicz opined that an earlier version of RiOS software met this limitation as part of his invalidity analysis, and he did not know whether version 5.0.0 of RiOS operated the same way, there is no genuine issue of material fact regarding this claim limitation." (*Id.* at 15). Riverbed notes that the only reason Dr. Kubiadowicz did not review that part of the source code was "because Dr. Spring didn't address that," and therefore Silver Peak has failed to carry its burden of proof. (*Id.*).

Even if Silver Peak did mischaracterize Dr. Kubiadowicz's testimony on the sixth and tenth limitations, it does not create a genuine issue of material fact that would prevent the grant of a motion for summary judgment. As described above, Silver Peak's expert has opined at some length as to why he believes RiOS versions 5.0.0 and higher meet every limitation of claim 1 of the '921 patent. This constitutes an independent factual basis, separate and distinct from the question of whether Silver Peak misconstrued Dr. Kubiadowicz's "equivocal statements," on which summary judgment could be granted. Riverbed's brief does not offer an opinion from Dr. Kubiadowicz stating that the RiOS software does not meet one or more claim limitations and the reasons supporting that opinion.

Because there are no issues of material fact regarding whether the Riverbed Optimization System (“RiOS”) versions 5.0.0 and higher practice every limitation of claim 1, the Court will grant partial summary judgment of infringement of the ’921 patent in favor of Silver Peak. The corresponding hardware that contains the infringing software is not explicitly identified by Silver Peak’s expert and is left for determination at trial.

### **B. The ’736 Patent**

There is a dispute of material fact regarding whether Riverbed’s accused devices practice the “status message” limitation of claim 1 of the ’736 patent, and summary judgment is therefore not appropriate for either party.

Silver Peak alleges that Riverbed infringes claims 1, 2, 8, 9, 10, and 17 of the ’736 patent, each of which requires the presence of a “status message indicating an activity level of the faster memory and the slower memory.” ’736 patent, claim 1. The parties agreed that “status message” should be construed to mean “a message providing information regarding the relative activity of the faster memory and the slower memory on a second appliance.” (D.I. 161).

It is Dr. Spring’s position that two messages—the SPORT\_CMD\_INF\_MOD\_OPOL and SPORT\_CMD\_INF\_PRESSURE messages—in the Riverbed products practice the “status message” limitation of the ’736 patent. (D.I. 191, ¶¶ 54-63). According to Dr. Spring, although the two messages directly measure disk activity, they nonetheless “convey information about the appliance’s memory activity level as well.” (*Id.* ¶¶ 63 (“[E]very disk read request represents an already-attempted RAM lookup.”)). If a Steelhead appliance is experiencing disk pressure, it follows that it is also experiencing significant RAM activity. (*Id.*). As a result, “a status message that explicitly conveys information about an appliance’s disk activity level implicitly conveys information about that appliance’s memory activity level as well.” (*Id.*). Dr.

Kubiatowicz, on the other hand, disputes that “a message containing information about the activity level of a disk in a Riverbed appliance will inherently provide some information about the RAM memory of the appliance.” (D.I. 173, ¶ 2). This is true because the “memory for storing requests for disk access in RAM is quite small relative to the total size of RAM.” (*Id.* ¶ 3). The storage of requests is likely to have only a minimal effect on overall RAM, “even during heavy use of the disk for read and write operations.” (*Id.*). Therefore, “[w]ithout other information, there is no way to determine the actual activity level of the faster memory by using the number of disk requests.” (*Id.* ¶ 4).

The experts clearly disagree as to whether the two messages identified by Silver Peak’s expert practice the “status message” limitation of the ’736 patent. A dispute of material fact exists that cannot properly be resolved by the Court on a motion for summary judgment. Both parties’ motions for summary judgment are denied.

#### **IV. CONCLUSION**

For the reasons set forth above, partial summary judgment in favor of Silver Peak on its motion for summary judgment of infringement of the ’921 patent is granted, and Silver Peak and Riverbed’s cross-motions for summary judgment on the ’736 patent are denied. A separate Order consistent with this Memorandum Opinion will be entered.